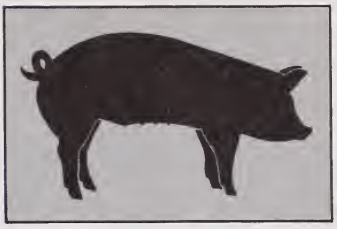
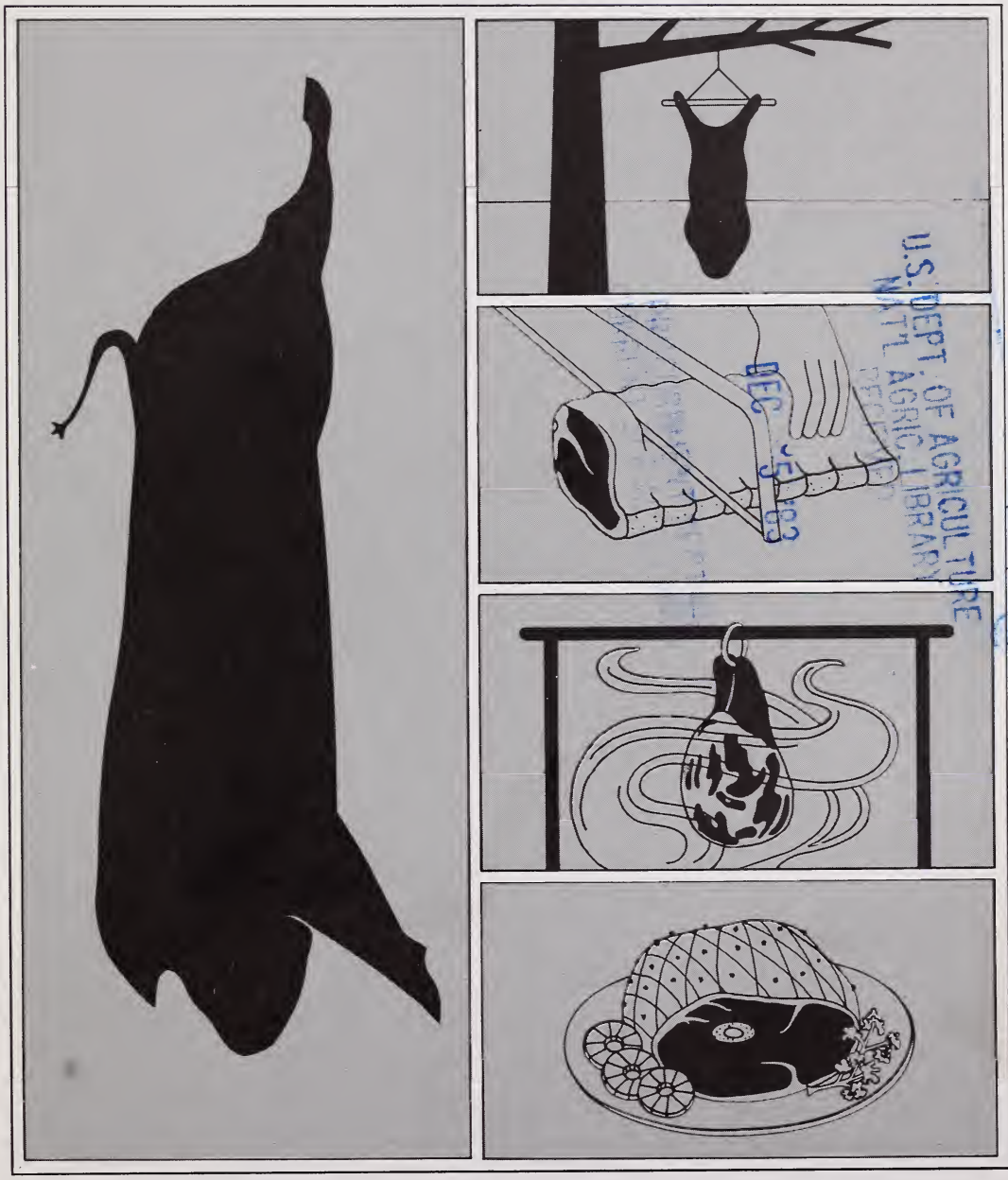
Slaughtering, Cutting, Preserving, and Cooking on the Farm





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Pork Slaughtering, Cutting, Preserving, and Cooking on the Farm

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SELECTION AND CARE OF ANIMAL BEFORE SLAUGHTER

Several factors should be considered before slaughtering a hog for home consumption. The most important considerations are health, kind of animal (barrow, gilt, sow, or boar), expected meat yield, and care of the animal prior to slaughter.

Health

You should take care that an unhealthy animal is not selected for slaughter. At the time of selection, look for signs of sickness such as fever, increased breathing rate, and diarrhea. Animals suspected of being unhealthy should be treated by a veterinarian until the animal is returned to a healthy state.

Animal Care

It is important to exercise proper care of the animal prior to slaughter, if you expect to obtain high quality meat. Pen the animal in a clean, dry place the day before slaughtering. Restrict the animal from feed 24 hours prior to slaughter, but provide access to water at all times. The slaughter of hot, excited animals increases the risk of sickness, injury, and darker meat; therefore, do not run the animal or wrestle with it. Bruises and whip marks cause bloody spots which must be trimmed out.

Animal Type and Meat Yield

Highest quality pork is produced from young, healthy, well-fed, meaty hogs that weigh from 175 to 240 pounds. The meat-type hog should have full, plump, meaty hams and

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straight, smooth sides. Fat should be firm, evenly distributed, and not more than 1.6 to 1.7 inches average thickness over the back. The average meat-type hog produces as much pork as a family of two consumes in 10 to 12 months. Heavier, fatter hogs produce less lean and more excess fat.

A meat-type hog, when cut and trimmed according to the methods described later, will yield approximately 65 to 70 percent of its carcass weight in ham, picnic shoulder, loin, bacon, and Boston butt. Expected yields of major and minor cuts from a U.S. No. 2 hog are presented in table 1.

The slaughter of boars is not recommended. Meat from boars has a strong odor during cooking, and an off-flavor. This "sex" odor and flavor is often identified as being "soapy," and the odor increases as boars approach sexual maturity. If old boars are to be slaughtered, they should be castrated and allowed to heal prior to being slaughtered.

PREPARING FOR SLAUGHTER

Prior to the day of slaughter, select the slaughter site, accumulate all equipment, prepare for waste disposal, and, if necessary, arrange with a local processor or meat market for chilling and cutting the carcass. If you plan to have the carcass chilled and cut up, make arrangements concerning the time and day on which the carcass can be accepted, the charges, and specific instructions for chilling, cutting, and wrapping.

Site Selection

Slaughter site selection is extremely important. The amount of space and equipment needed will depend on the

Table 1.—*Percentages of major and minor cuts from a U.S. No. 2 hog, trimmed according to USDA procedures*

Cuts	Percentage of USDA carcass weight
Ham (trimmed)	19
Belly (untrimmed)	18
Collar, fat back, and clear plate	18
Picnic shoulder and Boston butt (trimmed)	17
Loin (trimmed)	17
Feet, tail, and neckbones	5
Spareribs	3
Jowl (untrimmed)	3
	100
Four lean cuts[1]	53

Adapted from Smith, King & Carpenter, 1975.
[1]Ham, loin, picnic shoulder, and Boston butt.

method (scalding or skinning) used. If the carcass is to be scalded, be sure that a site is selected where a fire can be built, and clean, running water is available. If a tree is to be used to suspend the carcass, select a healthy limb, 6 to 8 inches in diameter and 8 to 10 feet from the ground. This will ensure that the limb will not break from the weight of the carcass, and the carcass can be fully extended above the ground for viscera removal and splitting. If the animal is to be slaughtered in a building, be sure that a strong beam 8 to 10 feet from the floor is available. The floor should be clean and, preferably, concrete.

After selection of the slaughter site, clean up the area to ensure that leaves and dirt are not blown on the carcass during slaughter. If the site has a wooden or concrete floor, wash the floor and all equipment with plenty of soap and water. Be sure to rinse thoroughly because sanitizers discolor the meat and may cause off-flavors. If animals are to be slaughtered outdoors, use straw to cover the area where the carcass will be suspended and eviscerated.

The weather on the day of slaughter should also be considered. During hot weather, the animal should be slaughtered during the cooler early morning or late evening hours. Since an inexperienced person will take 2 to 3 hours to complete the slaughter operation, care should be taken to avoid long exposure of the carcass to high temperatures. During cold weather of less than 30° F, the animal can be slaughtered at any time, because spoilage bacteria do not grow rapidly at cold temperatures. During periods of extremely cold weather, avoid letting the carcass freeze immediately after slaughter because the meat will be less tender than if it is permitted to chill without freezing. Slaughter during high winds may result in dirt and other contaminants being blown onto the carcass.

Waste Disposal

All waste products should be disposed of in a sanitary manner. If the animal is to be slaughtered in the open, select a site with good drainage so that blood and water can drain away from the carcass. Do not allow blood and water to pollute nearby streams or other water supplies.

Disposal of viscera and hair is often a problem. Arrange to have a local processor or rendering plant pick up these wastes. If this is not possible, bury them so that dogs and other animals cannot dig them up. Hair can be burned.

Slaughter Equipment

Elaborate and expensive equipment is not necessary but certain items are essential (fig. 1). The amount of equipment will depend on the slaughter procedure used. If the carcass is to be scalded rather than skinned, additional equipment will be needed (items 16 to 23). The following slaughter equipment is recommended:

1. .22 caliber rifle with long or long rifle cartridges
2. Sharp skinning knife and steel
3. Boning knife
4. Block and tackle or chain hoist - should be strong enough to hold weight of pig to be slaughtered

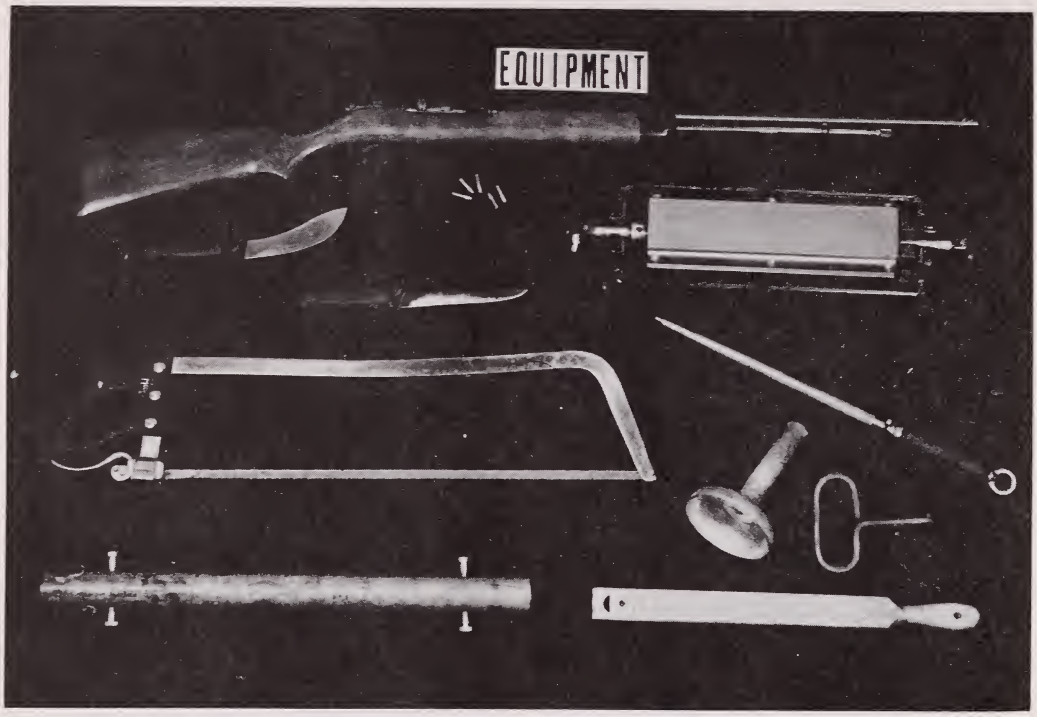

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Figure 1.—Equipment for slaughter.

5. Chocks - concrete blocks work well
6. Meat saw
7. Oil or water stone
8. Ample cold water for washing hands, equipment, carcass and byproducts
9. Tree with strong limb, beam or tripod 8 to 10 feet high, or tractor with hydraulic lift
10. Spreader (gambrel or metal pipe)
11. Buckets (2 or 3)
12. Ice or cold water
13. Straw for placing under animal during evisceration and splitting
14. Clean cloths or plastic for protection of meat during transport
15. Clean string
16. Scalding barrel
17. Pot or barrel for heating water
18. Bell scrapers (1 or 2) - these are not necessary but helpful
19. Plywood or other solid material for scalding platform
20. Thermometer which registers up to 200° F
21. Dry wood for fire
22. Hog or hay hook
23. Propane torch or blow torch

Be sure that all equipment that will come in contact with meat is thoroughly cleaned. Blood and other materials that get on the outer garments of workers during slaughter should not be transferred to the carcass after it is washed.

Additional equipment needed for cutting the carcass is listed in the section, "Cutting."

SLAUGHTER

Stunning

The animal should be killed as quickly and humanely as possible. In most slaughter plants, hogs are immobilized either by electrical stunning or carbon dioxide gas suffocation. On the farm a hog can be stunned by striking it one sharp blow with a mechanical stunner or by shooting it in the forehead midway between and slightly above the eyes. The first attempt should be successful (fig. 2). Improperly placed bullets could cause the animal much pain and injure helpers or other livestock. Animals that become excited during stunning will not bleed as well as those less excited. *As always the case whenever using firearms, exercise all appropriate safety precautions.*

Bleeding

Bleeding is a very important part of the slaughtering operation. The animal should be bled within 2 minutes after it is down because the blood pressure may increase and thus break the capillaries and cause an unattractive condition in the meat called "blood splash." Although meat with this condition is safe for consumption, it is quite unpleasant in appearance.

After stunning the animal, place it

PN-5303

Figure 2.—Stunning.

on its back, perfectly straight with the head close to the ground. A helper can stand over the animal and hold its front legs. Locate the tip of the breastbone, along the midline (fig. 3). A 6-inch sticking knife sharpened on both sides of the tip is best. However, a regular boning or skinning knife can be used. Hold the knife at a 35- to 40-degree angle, thrust it under the breastbone with the point aimed toward the tail and then give an upward thrust (dip the point) to sever the carotid artery (figs. 4 & 5). No twisting or cross-cutting of the knife is necessary. If the hog does not bleed, insert the knife a little deeper a second time and there should be little difficulty getting a good stick. To avoid a "shoulder stick," do not insert the knife too far to either side. The bloody tissue resulting from a shoulder stick will subsequently require trimming. Care should also be taken to make certain that the hog does not kick you or the knife.

Hair or Skin Removal

Once the animal is bled, the hair can be removed by scalding the animal in hot water and scraping; or the skin and hair can be removed by skinning. Traditionally, hogs have been scalded and scraped, and the skin is left intact. Both procedures will be discussed because many people now find the skinning method to be easier, to require less equipment, and to result in an equally acceptable final product.

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Figure 3.—Locating breastbone.

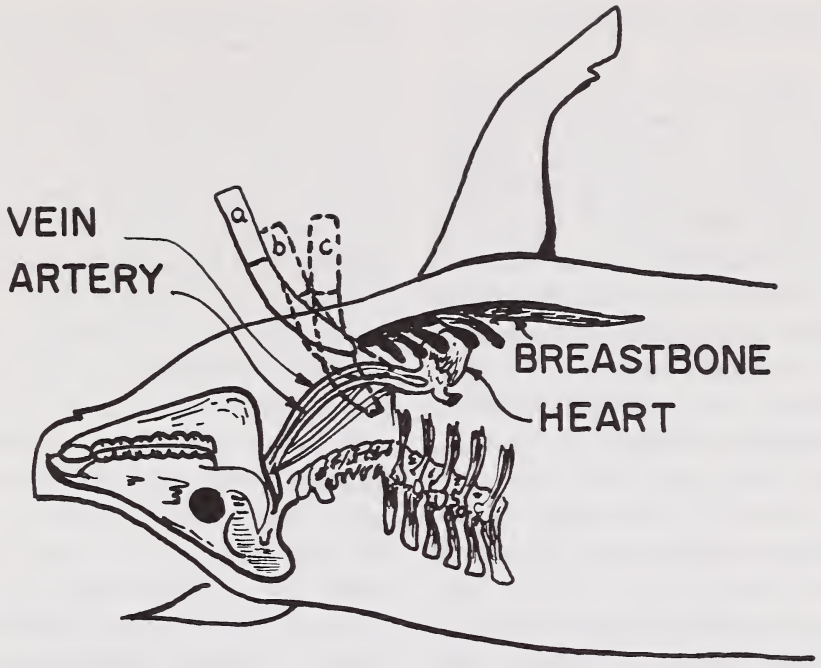

Figure 4.—Sticking (bleeding).

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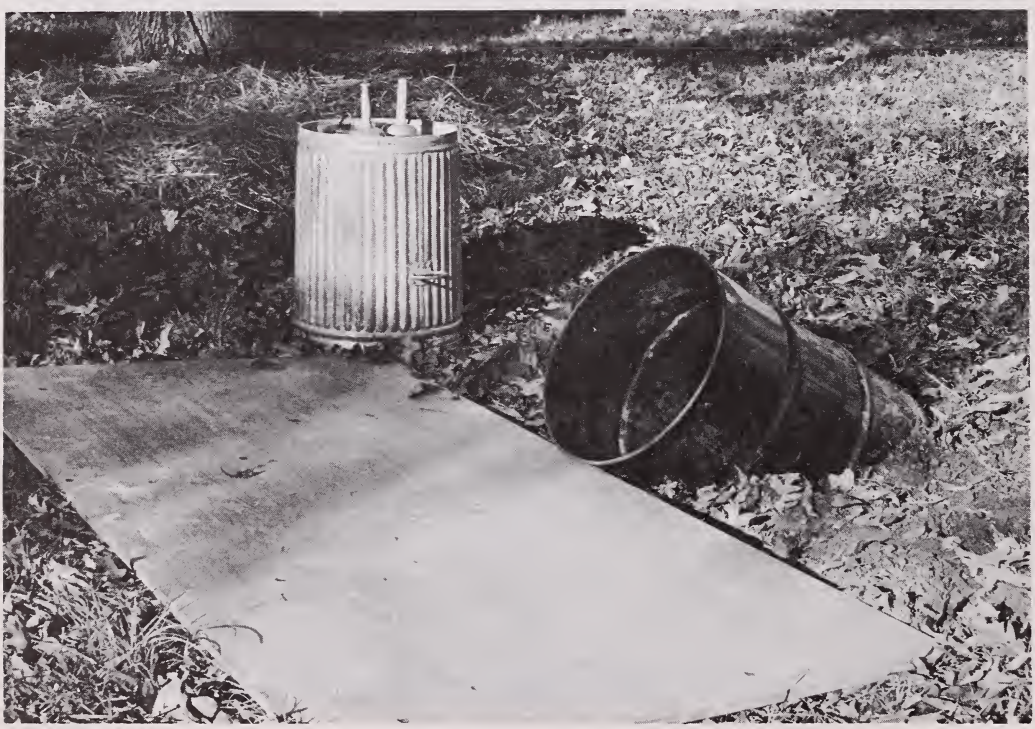
Figure 5.—Positions for sticking.

Scalding and Scraping Method:

For scalding, the most important consideration is maintaining an adequate supply of properly heated water. Approximately 50 gallons of near boiling water will be needed for each pig. This water should be ready (boiling) before the animal is stunned and bled. After the hot water is placed in the scalding barrel, it can be adjusted to the proper temperature for scalding by adding cold water.

The animal can be scalded by several methods. The easiest method is to have two barrels, one for heating the water and one for use as a scalding vat. Fifty-five gallon barrels will be large enough for most hogs. The scalding barrel can be buried in the ground at a slight angle; thus movement of the hog in and out of the barrel is easier (fig. 6). Be sure the angle of the barrel is not too flat or the barrel will not hold enough water to cover the carcass. Another method for scalding is to have a scalding vat or a barrel under which a fire can be built. This method requires more construction, and the temperature of the water is difficult to control.

Slow scald is usually best. Scalding water temperatures between 140° and 145° F are optimal. At these optimal temperatures, 3 to 6 minutes of scalding are required to loosen the hair and scurf (layer of accumulated oil, dirt, and the outer layer of cells on the skin). In the fall when the winter hair is beginning to grow, the hair of most hogs is difficult to remove. Higher water temperatures (146° to 150° F) or longer submersion times are usually required for scalding during this "hard-hair" season. About 1/4 cup of rosin, lime,



PN-5306

Figure 6.—Scalding equipment.

or some other alkaline material added to the scald water to aid in scurf removal results in a whiter skin.

On the farm, regulation of water temperature is difficult. Add boiling water to the scalding barrel, then add cool water to adjust to the proper temperature. Begin with the scalding water at 155° to 160° F because it cools rapidly. At these high temperatures, the carcass must be kept in motion and pulled from the barrel several times. This movement prevents overscalding. Overscalding causes the skin to contract around the base of the hair ("setting the hair") and cooks the skin. If the carcass is overscalded, the hair is extremely difficult to remove.

After the proper water temperature has been attained, place the pig in the barrel, head first (fig. 7). Rotate the carcass in the barrel, pulling it in and out of the water occasionally. Check the hair often for ease of removal. The hair slips first over the back and sides, then in the flank regions. When the hair can be pulled easily in the flank regions behind the shoulders, remove the hog from the barrel and place the rear of the hog in the water.

While the rear of the hog is scalding, pull the toe nails and dew claws from the front feet by inserting a hook into the top of the nail and pulling (fig. 8). Scrape as much of the hair on the head as possible, especially around the ears and snout (fig. 9). When the hair slips in the rear flanks, remove the hog from the

PN-5307

Figure 7.—Scalding head first.

PN-5308

Figure 8.—Removing toe nails.

PN-5309

Figure 9.—Scraping head.

barrel. Remove the toe nails and dew claws from the rear legs and pull the hair from the tail.

Grip the legs with both hands and twist to pull off the hair. Remove the hair in the difficult areas (head, feet, jowl) first, then proceed to the easier areas (back, sides). If you use the bell scraper, tilt the scraper upward on the forward edge and pull the scraper forward, applying as much pressure as possible (fig. 10).

Scrape the hot carcass as quickly as possible because the skin tends to "set" as it cools. If patches of hair and scurf are difficult to scrape, cover them with a burlap bag and pour hot water over them. Scraping is made easier by moving the legs or the head in order to stretch the skin, smoothing the wrinkles along the sides.

After most of the hair has been removed, pour water over the carcass and continue scraping. Place the scraper flat against the skin and move it in a rotary manner (fig. 11). This procedure aids in removal of scurf and dirt as well as removal of the rest of the hair. If patches of hair cannot be removed with the scraper, use a knife. Some people prefer to use a knife for the entire operation.

The carcass is now ready to be suspended. Clean the feet by cutting away the soles of the feet and cutting between and around the toes (fig. 12). Expose the gambrel tendons by cutting through the skin on the backs of the rear legs from dew claws to hock (fig. 13). Cut down each side of the tendons, being careful not to cut the tendons (fig. 14). Insert the spreader or gambrel under both tendons on

PN-5310

Figure 10.—Scraping head.

PN-5311

Figure 11.—Scraping middle.

PN-5312

Figure 12.—Cleaning feet.

PN-5313

Figure 13.—Exposing gambrel tendons.

PN-5314

Figure 14.—Exposing gambrel tendons.

each leg. Secure the legs to the spreader bar and suspend the carcass (fig. 15).

If available, a propane torch or blowtorch can be used to singe the remaining hair and scurf (fig. 16). Singeing removes most of the hair and allows small, light hairs to be seen. Use caution during singeing to prevent burning the skin. Shave the remaining hair and wash the carcass thoroughly. Continue with evisceration and splitting (pages 24-35).

PN-5315

Figure 15.—Suspending the carcass.

Skinning Method:

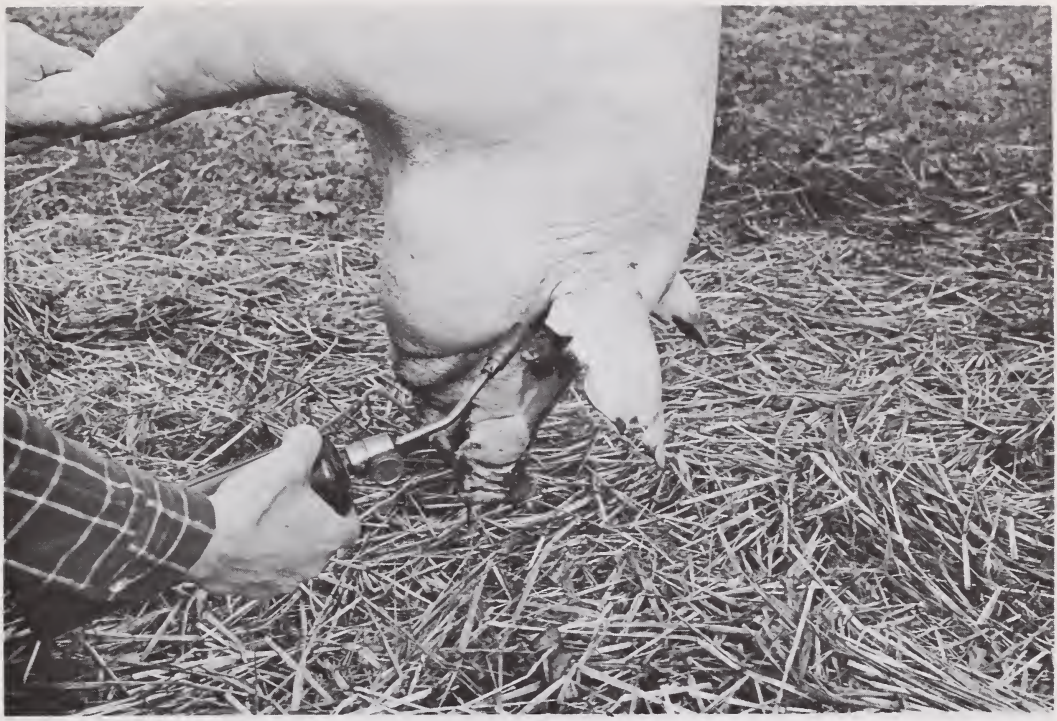
The skinning procedure used for pork carcass is similar to that used for beef carcasses. Skinning requires less equipment and can be done faster than scalding and scraping. We have commonly believed that the skin was needed on hams and bacon to assure proper curing; however, this belief is not necessarily correct. A poor skinning job can lower the quality of the belly for bacon.

After stunning and bleeding the animal, move the carcass to the location of the hoisting equipment. Place the carcass on a sheet of plywood, a concrete slab, or straw. Wash the blood and dirt from the carcass. Turn the carcass on its back and hold it in place with blocks placed on each side (fig. 17).

Cut the hide around the rear legs, just below the dew claws (fig. 18). Make a cut through only the hide, down the back of the leg, over the hocks, and to the midline at the center of the hams (fig. 19). Skin around each side of the leg, removing the hide to a point below the hock (fig. 20).

Open the hide down the midline from the point where the animal was stuck, around each side of the pubis area and continue to the anus (fig. 21). Make this cut by inserting the point of the knife under the skin with the blade turned up. This procedure is referred to as cutting from inside out and protects against meat contamination from materials on the hide. Avoid cutting too deeply because you may puncture the intestine and contaminate the carcass.

Remove the hide from the insides of the hams (fig. 22). Be careful, it is very easy to cut through the fat into the lean. Continue skinning along the sides toward the breast. Grasp the loosened hide in the opposite hand and pull it up and out. This places tension on the hide, removes wrinkles, and allows the knife to glide



PN-5316

Figure 16.—Singeing.

PN-5317

Figure 17.—Position for skinning.

PN-5318

Figure 18.—Cutting skin around legs.

PN-5319

Figure 19.—Cutting to midline.

PN-5320

Figure 20.—Skinning legs.

PN-5321

Figure 21.—Cutting down midline.

PN-5322

Figure 22.—Skinning hams.

smoothly. Holding the knife firmly, place it against the hide with the blade turned slightly outward (fig. 23). Skin as far down the sides as possible, but not around the front legs (fig. 24).

Return to the rear of the carcass and remove the hide left on the rear of the hams (fig. 25). Do not skin the outside of the hams at this time. Remove the rear feet by sawing through the bone about 2 inches above the hock (fig. 26). Insert the spreader under the large tendons on the rear legs (fig. 27) and secure the legs to the spreader.

Hoist the carcass to a convenient working height (waist high) for skin removal from the outside of the hams. Skin around the outsides of the hams, leaving as much fat as possible on the carcass. Remove the hide around the anus and cut through the tail at the joint closest to the body (fig. 28). Pull the hide down over the hips (fig. 29). The hide along the hips and back can be pulled off, leaving the fat on the carcass. Occasionally, you may need to use a knife to cut between the skin and the fat if large pieces of fat are being pulled off.

Hoist the carcass to a fully extended position. Open the hide down the rear of the forelegs. Remove the hide on each side of the forelegs (fig. 30). Skin along the inside of the forelegs and neck. Skin along the outside of the shoulders and jowls to a point approximately half way to the back of the carcass (fig. 31).

Slowly pull down and out on the

PN-5323

Figure 23.—Siding.

PN-5324

Figure 24.—Siding.

PN-5325

Figure 25.—Skinning rear of hams.

PN-5326

Figure 26.—Removing feet.

PN-5327

Figure 27.—Exposing tendon.

PN-5328

Figure 28.—Skinning rear of hams.

PN-5329

Figure 29.—Removing hide from back.

PN-5330

Figure 30.—Skinning forelegs.

hide (fig. 32), removing it along the back. If the fat begins to tear, use a knife to correct the torn area and then continue pulling the hide. Remove the hide as far down the back as possible (fig. 33). When it becomes difficult to pull along the top of the neck, complete removal with a knife.

If the head is to be saved, skin over the poll and down the face (fig. 34). Remove the hide at the snout. Remove the front feet by sawing just below the knee joint (fig. 35). Continue with evisceration and splitting.

Evisceration

Lossen the anus by cutting around it, deep into the pelvic canal. Pull outward and cut any remaining attachments (fig. 36); be careful not to cut into the large intestine. When the anus is loosened, tie it with a piece of string to avoid contaminating the carcass (fig. 37).

Remove the penis from a slaughtered barrow. Cut through the skin and fatty tissue along each side of the penis and around the penis opening. Lift upward and cut underneath it

PN-5331

Figure 31.—Skinning sides and back.

PN-5332

Figure 32.—Pulling hide from back.

along the midline (fig. 38). Cut along the penis between the hams, pull the penis upward and remove it at its attachment at the base of the ham (fig. 39). Continue the cut made between the hams, at their natural separation, exposing the white connective tissue. Cut through the tissue to the pelvic (aitch) bone. Continue cutting through the cartilage between the aitch bone and separate the hams (fig. 40). This procedure is satisfactory in young pigs; however, a saw may be needed to split the aitch bone in older hogs.

Make a cut through the lean and fat from the point where the pig was stuck to the upper end of the sternum or breastbone (fig. 41). Insert the knife at the top edge of the sternum, cut downward and slightly off-center to open the chest cavity (fig. 42).

Open the midline, beginning at the opening made when the aitch bone was split. With the handle of the knife inserted in the opening and with the blade pointed outward to avoid cutting the intestines (fig. 43), open the midline to the opening made at the breast (fig. 44). Allow the intestines and stomach to roll outward

PN-5333

Figure 33.—Pulling hide from back.

PN-5334

Figure 34.—Skinning head.

PN-5335

Figure 35.—Removing front legs.

PN-5336

Figure 36.—Loosening anus.

PN-5337

Figure 37.—Tying anus.

PN-5338

Figure 38.—Removing penis.

and hang (fig. 45). Do not allow them to fall because the esophagus will tear and spill its contents onto the carcass.

Pull the loosened large intestine down past the kidneys (fig. 46). Sever the attachments to the liver and remove it by pulling outward and cutting the connective tissue (fig. 47). Remove the gall bladder from the liver by cutting beneath it and pulling (fig. 48). Be careful not to allow its contents to spill onto the liver.

Pull the stomach and intestines outward and cut through the diaphragm (fig. 49). This is the thin sheet of muscle and white connective tissue that separates the stomach and intestines from the lungs and heart. Pull outward on the lungs and heart and cut down each side of the windpipe, severing its attachment at the head (fig. 50). To separate the heart from the lungs, cut across its top (fig.

PN-5339

Figure 39.—Removing penis.

PN-5340

Figure 40.—Splitting pelvic bone.

PN-5341

Figure 41.—Tip of sternum.

PN-5342

Figure 42.—Opening the sternum.

PN-5343

Figure 43.—Opening the midline.

PN-5344

Figure 44.—Opening the midline.

PN-5345

Figure 45.—Intestines and stomach.

PN-5346

Figure 46.—Pulling large intestine.

PN-5347

Figure 47.—Removing liver.

PN-5348

Figure 48.—Removing gall bladder.

PN-5349

Figure 49.—Cutting diaphragm.

PN-5350

Figure 50.—Removing windpipe.

PN-5351

Figure 51.—Removing heart.

51). The heart should be split open to allow thorough washing. Wash the heart and liver thoroughly and put them in ice or ice water.

Splitting and Head Removal

Wash the inside of the carcass before splitting. With the saw, begin splitting from the inside between the hams (fig. 52). Keep the split as near the center of the backbone as possible, and saw through the tail region to a point midway through the loin (fig. 53). Move around to the back and continue sawing through the shoulder and neck to the base of the head (fig. 54). If the split gets off center, continue sawing through to the next vertebra and then realine the saw.

Remove the head at the atlas joint (the joint closest to the head). This joint should be exposed if the carcass is properly split (fig. 55). After cutting through the joint cut downward along the jaw bone, leaving the jowls attached to the carcass. If desired, remove the tongue, wash it thoroughly, and place it with the liver and heart.

Remove the kidneys and leaf fat (figs. 56 and 57). The leaf fat is removed by loosening it from the diaphragm muscle and lifting it upward. Wash the carcass throughly before chilling.

PN-5352

Figure 52.—Splitting.

PN-5353

Figure 53.—Splitting.

PN-5354

Figure 54.—Splitting.

PN-5355

Figure 55.—Removing head at atlas joint.

PN-5356

Figure 56.—Removing kidney.

PN-5357

Figure 57.—Removing leaf fat.

Examining the Carcass

All the internal organs and the dressed carcass (fig. 58) should be examined carefully for any abnormalities or conditions that might affect the fitness of the meat for food. Usually a meat inspector or graduate veterinarian is the only person qualified to do this, and one should be present to inspect the carcass; however, under farm conditions, you may need to look for the obvious signs of disease or damage yourself. If any part of the viscera or carcass is questionable, you should obtain expert advice.

Bruises, minor injuries, parasites in the organs, enclosed abscesses, and single tumors are frequently local conditions that can be easily removed. However, congestion or inflamation of the lungs, intestines, kidneys, inner surface of chest, or abdominal cavity and numerous yellowish or pearl-like growths scattered throughout the organs should be viewed seriously. Carcasses and viscera having such abnormalities should be examined by a graduate veterinarian and his opinion obtained as to the wholesomeness of the meat. *You should check with a cooperating veterinarian before you slaughter the animal to be certain he will be available if you should seek his advice.*

PN-5358

Figure 58.—Completed carcass.

CHILLING THE CARCASS

The surfaces of freshly slaughtered hog carcasses are contaminated with bacteria that can spoil the meat unless their growth is promptly checked. Bacterial growth can be slowed by prompt chilling and keeping the carcass at low temperatures. If the weather is suitable (28° to 35° F), the carcass can be wrapped in a sheet, hung, and chilled in a well-ventilated shed. Wrapping with clean cloth will partially protect the carcass from contamination.

Do not allow the carcass to freeze because freezing within 1 day after death may toughen the meat. If the carcass cannot be chilled to below 40° F on the farm, it should be transported to a local locker plant or market for chilling. The need for prompt and thorough chilling of warm carcasses cannot be overemphasized for the inhibition of bacterial growth. The carcass can be cut into retail cuts after it has been chilled for 24 to 48 hours.

CUTTING

Use the following guidelines in determining cutting and packaging instructions for the processor if the carcass is not cut and wrapped on the farm.

Chops.—Can be broiled, braised, or pan fried. Chops should be at least one-half to three-fourths of an inch thick for frying or braising, and 1 inch thick for broiling. Figure one or two chops per serving. Allow three-fourths of a pound of uncooked meat (bone-in) per person as a guide.

Roasts.—Allow three-fourths of a pound per serving for bone-in roasts (ham, picnic, shoulder) and one-half pound per serving for boneless roast (boned and rolled Boston butt or shoulder).

Sausage.—Allow one-third pound per serving.

Carcass Cutting Equipment

Elaborate and expensive equipment is not necessary but certain items are essential. The following equipment is recommended (fig. 59):

1. Steel
2. Boning knife
3. Large steak knife
4. Meat saw
5. Freezer paper (see section on "wrapping")
6. Freezer tape
7. Meat grinder (electric or hand powered)
8. Clean water

Cutting the Carcass

Remove the hind foot by sawing through the hock joint at the right angle to the length of the foot (fig. 60).

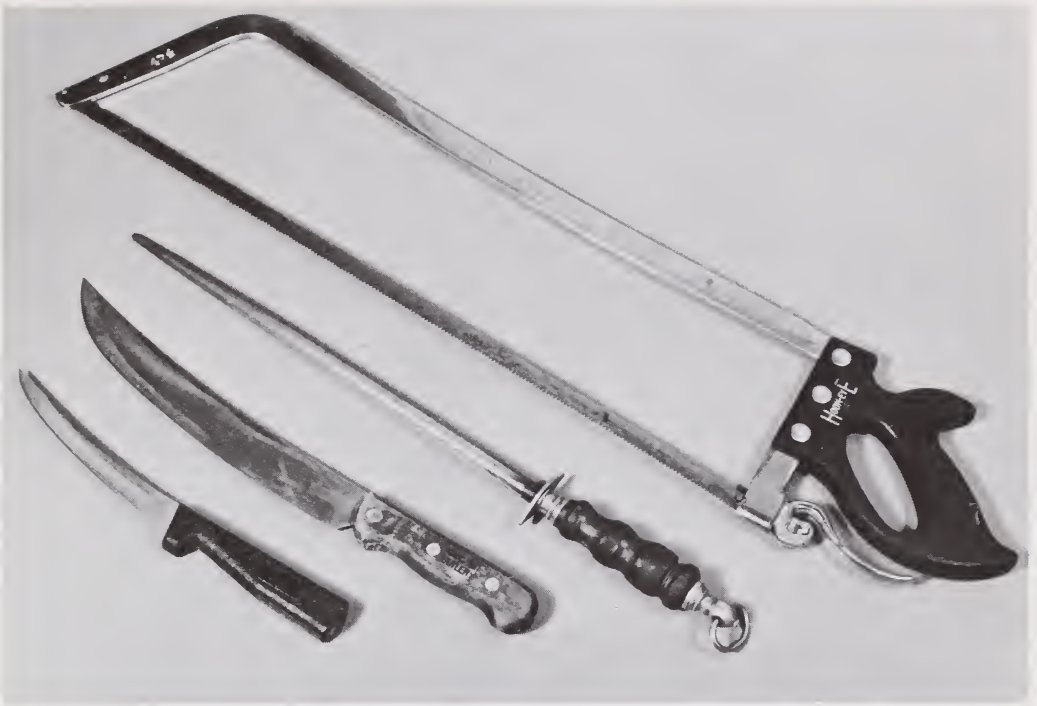
The ham may be removed two ways. The long-cut ham is cut off at the pelvic arch (bend in the backbone) perpendicular to the length of the side (fig. 61). This style ham lends itself to dry salt curing and aging. The popular short-cut ham is separated from the side by a cut approximately halfway between the pelvic arch and the end of the pelvic bone at a right angle to the shank (fig. 62).

The front foot is removed by sawing through the hock (knee) joint at a right angle to the length of the foot (fig. 63). A shoulder hock may be cut off about halfway up the leg (fig. 64). To separate the shoulder from the loin and belly, locate the second rib from the front and saw through the center of this rib (fig. 65).

The remaining part (middle) is divided into the loin and the belly by a straight cut from the edge of the tenderloin muscle on the ham end through a point on the first rib about 2 inches from the protruding edge of the split backbone (figs. 66 and 67).

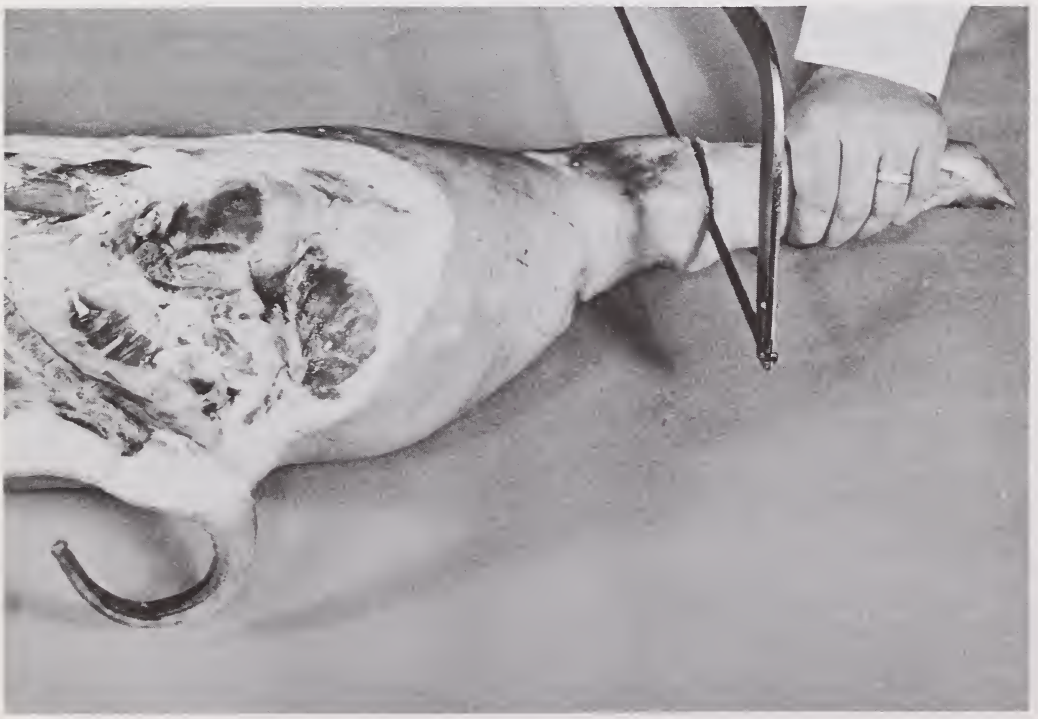
The tail, backbone, and flank are removed from the ham; and the fat over the inside (top), in the pelvic area, and along each side is trimmed close to the lean (fig. 68). Most of the skin and fat are left on the long-cut ham with only a short bevel at the butt (loin) end. Five or six inches of skin may be removed from the short-cut ham by cutting under the skin approximately half the distance between the butt edge and the hock (fig. 69). The exposed fat is then smoothly tapered to a thickness of about one-half inch at the butt end (fig. 70).

The fat back is removed from the



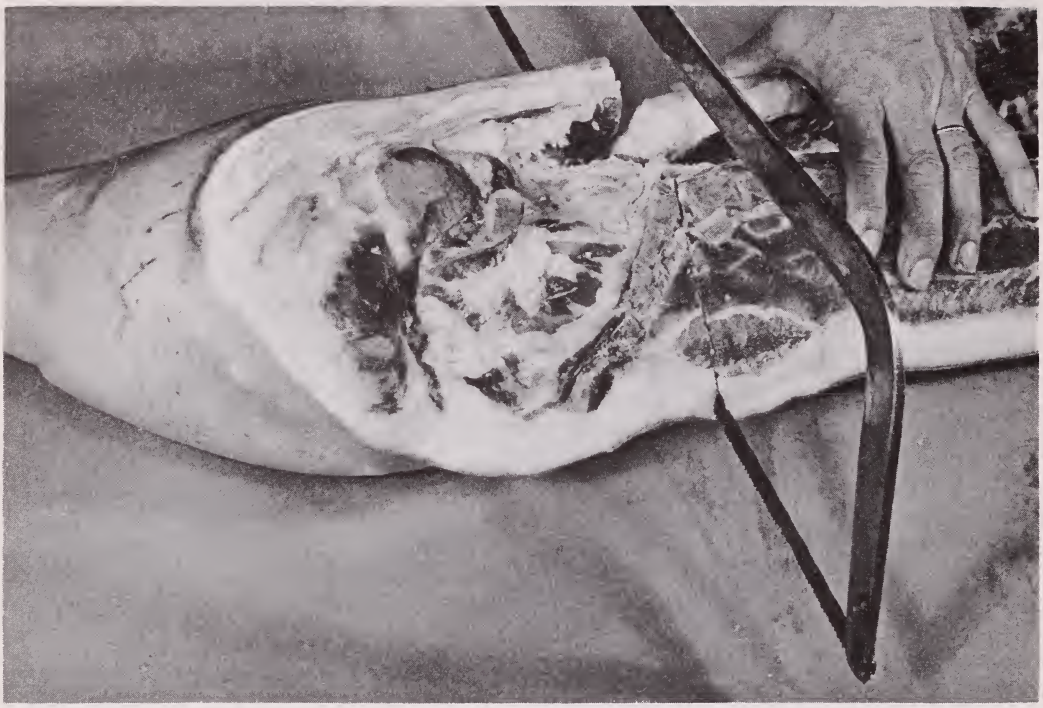
PN-5359

Figure 59.—Equipment for cutting.



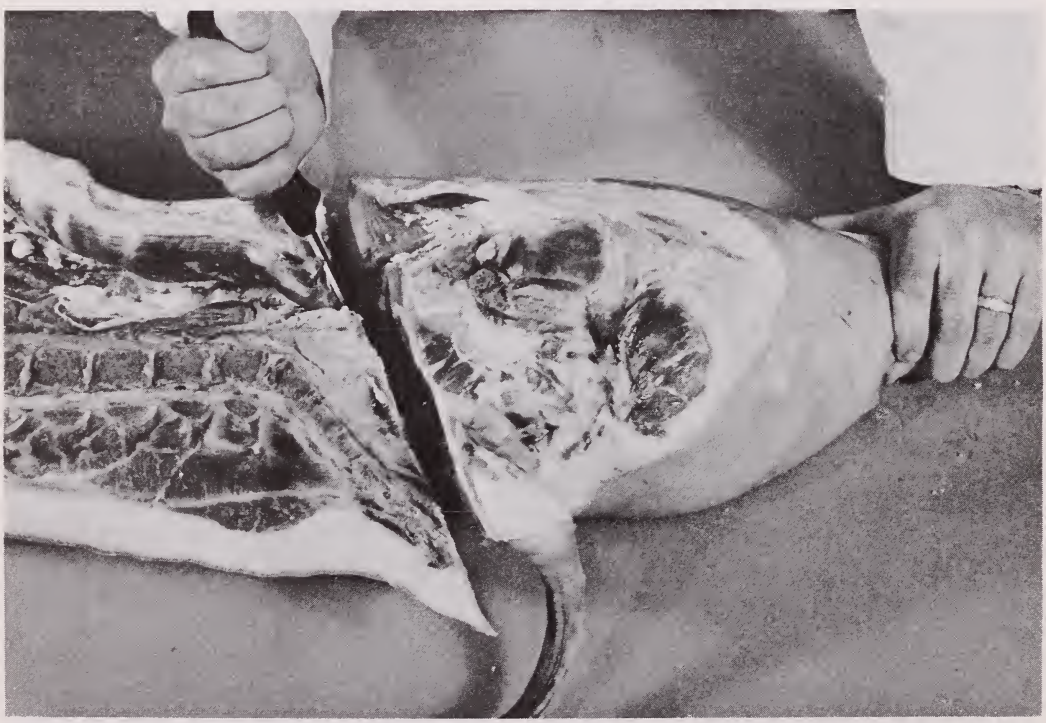
PN-5360

Figure 60.—Removing hind foot.



PN-5361

Figure 61.—Removing long ham.



PN-5362

Figure 62.—Removing short ham.

PN-5363

Figure 63.—Removing front foot.

PN-5364

Figure 64.—Shoulder hock.

PN-5365

Figure 65.—Shoulder removal.

PN-5366

Figure 66.—Separating middle from loin.

PN-5367

Figure 67.—Separating middle from loin.

loin. Starting along the backbone side at the shoulder end, cut and lift the fat over the curve of the loin muscles, being careful not to cut into the lean (fig. 71). Surface fat on the loin can then be trimmed to approximately one-fourth inch in thickness (fig. 72). The loin can be roasted whole, cut into smaller roasts, or sliced into chops (fig. 73). Shoulder, rib, loin, and sirloin chops are made from the loin. However, the most popular chops are from the shoulder end and the center (loin) portion. The ham end is more often roasted. Cut chops one-half to three-fourths of an inch thick for broiling or frying. Chops for stuffing are easily made by cutting them two ribs thick and making a pocket between the ribs. Be careful not to cut through the outer

PN-5368

Figure 68.—Trimming short ham.

PN-5369

Figure 69.—Trimming short ham.

PN-5370

Figure 70.—Trimmed short ham.

PN-5371

Figure 71.—Trimming loin.

PN-5372

Figure 72.—Trimmed loin.

fat surface (fig. 74) when making chops for stuffing.

Remove the neck bones from the shoulder by cutting beneath the ribs to the backbone and along each side of the vertebrae, then lift and cut closely around the vertebrae to complete their removal (fig. 75). Cut off the flap of skin, fat, and lean where the hock joins the shoulder (fig. 76). The jowl is removed by a straight cut, parallel to the cut which separates the shoulder from the side, just behind the curve or "dip" in the skin where the ear was removed (fig. 77). Bevel the fat and skin at the top edge of the shoulder (fig. 78).

The shoulder can be divided into a picnic shoulder and a blade Boston roast by making a cut at a right angle to the sides, starting one-half inch below the edge of the blade bone (figs. 79 and 80). Bevel the skin and fat along the edge of the picnic shoulder (fig. 81). Remove the skin and fat (clear plate) from the Boston roast by starting at the corner over the blade bone and lifting it up and back (fig. 82). Trim the surface fat to a thickness of approximately one-fourth inch (fig. 83).

The blade Boston roast can be sliced into steaks or used as a roast. It can be made into a boneless cut by removing the portion of the blade bone (fig. 84). The roast can be rolled and tied with strong twine or cord to make an easily carved roast (fig. 85). Be sure to tie the roast so that the back muscles run lengthwise.

PN-5373

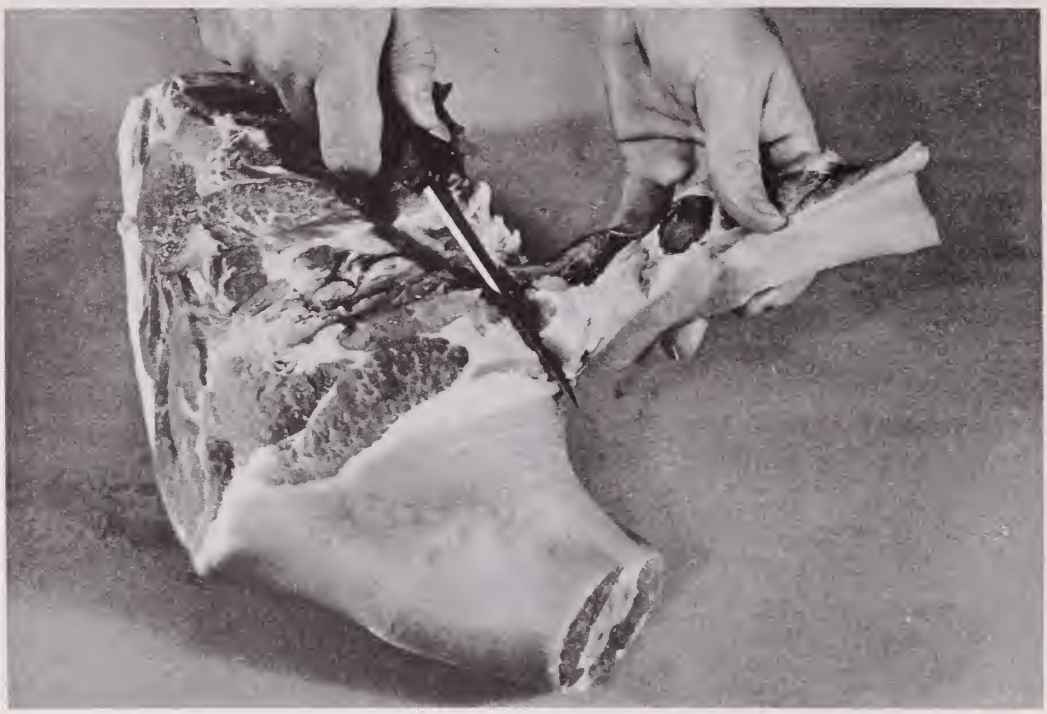
Figure 73.—Loin roasts and chops.

PN-5374

Figure 74.—Loin chops.

PN-5375

Figure 75.—Removing neck bones.

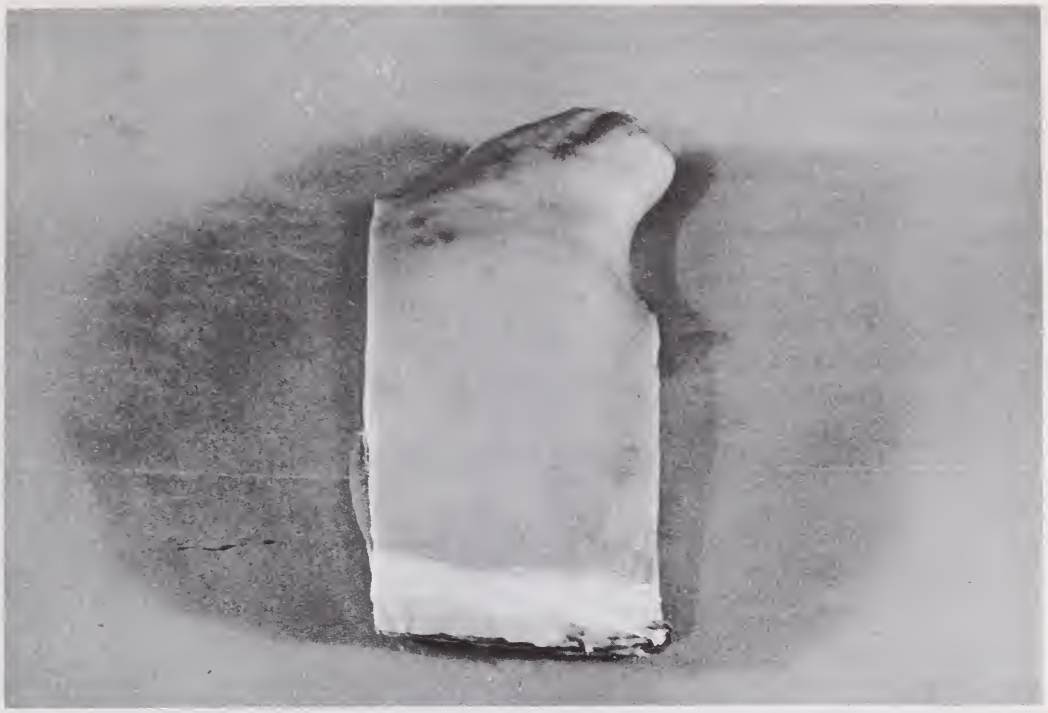


PN-5376

Figure 76.—Trimming pork shoulder.

PN-5377

Figure 77.—Removing jowl.



PN-5378

Figure 78.—Trimmed pork shoulder.

PN-5379

Figure 79.—Preparing Boston and picnic shoulder.

PN-5380

Figure 80.—Boston and picnic shoulder.

PN-5381

Figure 81.—Trimmed picnic shoulder.

PN-5382

Figure 82.—Trimming Boston shoulder.

PN-5383

Figure 83.—Trimmed Boston shoulder.

PN-5384

Figure 84.—Removing blade bone.

PN-5385

Figure 85.—Boneless, tied Boston shoulder.

Separate the spareribs from the belly by cutting closely underneath the ribs beginning at the flank end of the ribs (fig. 86).

Prepare a bacon side from the belly by first trimming the lean at the shoulder end approximately the same thickness as the lean in the area where the spareribs were removed. Remove any thin or ragged pieces of lean. Turn the belly over and press it flat. Remove the lower edge by a straight cut, parallel to the cut separating the belly from the loin and just inside the teat line on gilt and barrow bellies (fig. 87). Any enlarged or dark mammary glands should be removed. Trim the flank edge at a slight angle so the bacon side is approximately 1 inch longer on the midline edge - the side opposite the cut made to separate the loin from the belly. This extra length will compensate for differences in shrinkage during curing.

Sausage is made from the fat and lean trimmings produced from making trimmed hams, loins, bellies, picnic shoulders, and Boston roasts. If lean or additional sausage is desired, a picnic shoulder can be boned and added to the trimmings. Sausage should have a lean content of more than 50 percent. Remove skin, bone, cartilage, and bloody portions from the meat before grinding (fig. 88).

Wrapping

Fresh pork should be properly wrapped, quickly frozen, and stored at a temperature of -10° F or lower immediately after cutting. Proper

PN-5386

Figure 86.—Removing spareribs.

PN-5387

Figure 87.—Trimming belly.

PN-5388

Figure 88.—Skinning pork trimmings.

wrapping is essential to maintain meat quality:

- use moisture and vapor-proof wrap such as heavily waxed or specially laminated freezer paper
- prepare convenient family-sized packages wrap meat tightly to eliminate as much air as possible
- use a proper wrapping procedure (fig. 89) label and date each package properly.

FREEZING AND FROZEN STORAGE

Frozen pork, particulary cured or seasoned pork, will not retain its quality as long as beef or lamb. Pork should be frozen as soon after cutting as possible before any spoilage or rancidity can occur. Usually the hams, bacon, and shoulders are cured and do not require freezing. There

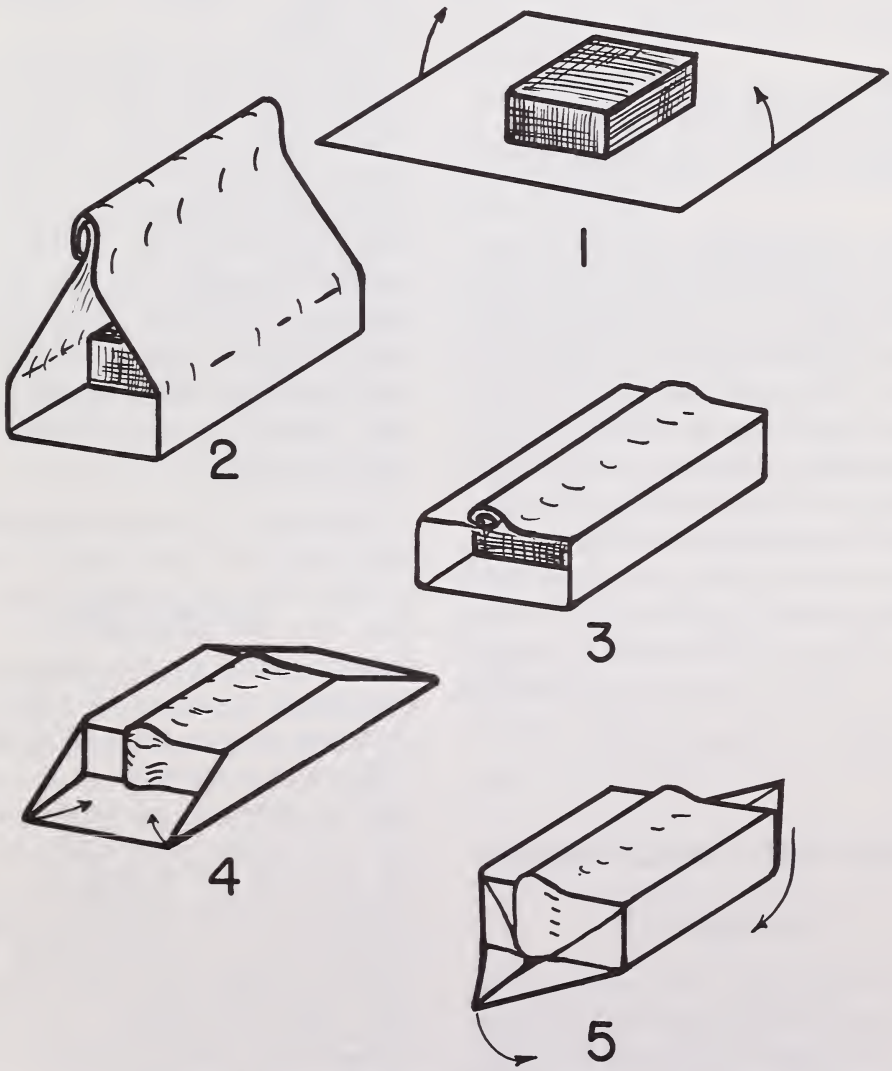


Figure 89.—Wrapping procedures.

should be ample freezer space available for fresh cuts. When using the home freezer be sure to:

- clean and defrost freezer
- freeze meat at -10° F or lower temperature
- freeze only the amount that will freeze in 24 hours
- allow ample air circulation by not overpacking the freezer
- maintain the freezer at a temperature of 0° F or less for storage

Recommended freezer storage times for pork as published in G-160, "Pork in Family Meals," (see page 64) are as follows:

chops.....	3-4 months
roasts.....	4-8 months
fresh sausage...	1-2 months
variety meats..	1 month or less
cured hams....	1-2 months

When thawing frozen pork (or any meat), it is best to thaw it in the original package in the refrigerator. Allow approximately 3 hours per pound for small roasts and chops. Meat should not be thawed at room temperature because of increased chances of food spoilage. If thawed properly at refrigerator temperatures, the meat can be refrozen with minimal loss of quality which results from drip, etc. Meat cooked from the frozen state is similar in palatability to thawed meat but requires up to one-third more cooking time.

FURTHER PROCESSING

Curing Pork

Precautions: The suggestions described in this bulletin are intended for use at home or on the farm where facilities for curing are limited. The continued use of nitrates and nitrites in meat curing is presently being investigated by the United States Department of Agriculture and the Food and Drug Administration. Therefore, before using nitrates (saltpeter) and nitrites as mentioned in this bulletin, check with your local county agent to determine whether its use has been rescinded. For establishing a commercial curing operation, contact the local Extension Service or your State Department of Agriculture for methods and regulations, or write to the USDA, Food Safety and Inspection Service, Washington, D.C. 20250.

The USDA has recommended that nitrates (saltpeter) not be permitted in commercial curing operations using *curing solutions*. Nitrates would still be permitted in very limited amounts in dry cured or fermented sausages because of their importance in flavor, color fixation, and retarding bacterial growth. Be *very careful* in adding nitrates to your meat - they are very poisonous in large amounts.

Nitrites may be toxic when eaten in large quantities. Care should be taken to use only the required amount. They may be purchased from farm supply stores and some drug stores. Very small quantities of sodium or potassium nitrites are used in curing solutions. It is advisable to have your supplier measure and package separately the amounts you plan to use. For example, the formula for sweet pickle cure includes only 1.18 ounce (33.45 grams or two and a half tablespoons) of nitrite per 100 pounds of meat. Several packages of exactly this amount would greatly aid in preparing curing solutions.

Do not put meat in cure until it has been thoroughly chilled for at least 24 hours. In addition, do not stack cuts which have not been properly chilled because stacking slows chilling and may result in spoilage. Frozen cuts should be thawed prior to curing.

Weigh curing ingredients carefully. Too little salt may allow spoilage. Too much salt will make meat hard, dry, and salty.

All parts of the pork carcass can be cured. The hams, shoulders, and bellies are usually cured. Although the loin can be cured, it is generally used fresh as chops or roasts.

The ingredients used in curing are salt, sugar, and sodium nitrate or nitrite. Salt is the preserving agent; nitrates (dry cure only) and nitrites are added for color and flavor development, but are also preserving agents. Sugar is used to counteract the harshness of salt. Commercial cures are available with some added spices and flavorings to give a characteristic flavor, aroma, or appearance.

Curing pork on the farm is usually done by one of two methods: dry cure or brine cure (plain or sugar-cured).

Dry Curing

The dry cure method entails rubbing meat with curing ingredients. Check the internal temperature of the largest cut. Be sure it is below 40° F. Federal meat inspection regulations state that the temperature of meat being dry cured should not be allowed to go below 36° F during the salt cure equalization period. Weigh the meat and curing ingredients accurately. For 100 pounds of meat, use an 8-2-2 mix.

- 8 pounds salt
- 2 pounds sugar
- 2 ounces sodium nitrate (dry cure only)

Mix curing ingredients thoroughly. For curing hams and picnic shoulders, divide into three equal parts. Rub one part of the mixture on all surfaces of the meat, making sure to push the mixture into the shank end of the hams. Put a thin layer (one-eighth inch) of cure over all cuts and stack in the curing room, skin side down on a table or shelf. On the fifth day, remove the hams and shoulders and apply the second one-third of the cure. Apply the last one-third on the tenth day.

Bellies will usually cure with only one application. However, like hams and shoulders, they can be resalted on the fifth day.

Federal meat inspection regulations state that the salt (cure) equalization period for hams and picnics is usually less than about 40 days or 3 days per pound of product (fresh weight). Bellies are commonly cured about 7 days per inch of thickness.

The curing pork should be stored in a refrigerated place where a constant temperature between 36° F and 42° F is maintained. Bacteria grow rapidly in unsalted meat when the temperature rises above 50° F.

After curing, soaking the meat will improve its quality and appearance. Soak in lukewarm water (not exceeding 70° F) for approximately 2 minutes for each day in cure. Soaking tends to distribute the seasoning more evenly and draws out some of the heavy salt concentration on the meat surface. Hang cuts up to dry for about 3 hours before smoking.

Sweet Pickle Cure

Place chilled, trimmed cut into a clean crock or barrel and cover with a cold pickle solution. The pickle solution is made by dissolving the following ingredients in 4 1/2 gallons of water:

- 8 pounds salt
- 3 pounds sugar
- 1.18 ounce (33.45 grams or two and a half tablespoons) sodium nitrite (see precautions on nitrite).

Weight the meat down to keep it from floating and cover it with curing solution. Keep the meat cold during the curing period (36° to 40° F).

Overhaul the meat about once or twice during the curing period to allow the pickle to reach all parts of the meat. To overhaul, remove all the meat, pour out the pickle, repack the meat, and cover with the same restirred pickle. To the extent possible, the cuts should be repacked so that surfaces that were previously in contact with other cuts are now exposed to the curing solution.

Curing time for hams and shoulders is 3 1/2 to 4 days per pound. Thus a 6-pound shoulder needs 24 days to cure and a 15-pound ham will require 60 days. A 10-pound belly will cure in about 15 days. However, heavier bellies and loins will require 21 days.

During curing the temperature of the pickle should be maintained at around 36° F. At higher temperatures, the brine may become sour or ropy due to the growth of bacteria. Ropy brine looks like partially cooked egg white. If this happens, discard the brine, scrub the meat with hot water, wash and scald the curing container, and repack meat with a new, cold curing solution. If the curing period was half over, make the new solution two-thirds the strength of the original. If three-fourths over, make the new solution one-half the original strength.

After curing, prepare the meat for smoking by soaking (as discussed under dry curing) and drying.

Pumping Hams and Shoulders

To speed up curing, most commercial packers pump brine into the hams and shoulders. Brine pumping can be used in conjunction with the other methods, or alone. Pumping requires special needles and a pump (hand or electric) to ensure proper distribution of the brine. The brine solution is prepared using the 8:3:1.18 mixture previously outlined. Two pounds of this cure mixture are dissolved in 1 gallon of cold water and the meat pumped with brine equivalent to 10 percent of its weight. Pumping may be accomplished by using the artery or stitch method. The femoral artery of the ham is located above the big flat bone which is cut when the ham is separated from the carcass. The artery is about halfway between the cut surface of the bone and the point of the aitch bone. With small forceps, you can clamp the end of the artery and push tissue and loose fat away so the pumping needle can be inserted. Stitch pumping is not as effective as artery pumping but is more so than either dry or pickle cure. Stitch pumping is accomplished with a spray needle by pumping along the bone, around the joints,

and vertically in thicker, lean parts of the ham or picnic. Cuts should be stored for a day to allow the cure to equilibrate prior to smoking.

Smoking

Smoking cured pork improves its appearance and gives it a characteristic aroma and flavor apart from that of any other meat product. Careful attention should be given to smoking and aging procedures to prevent microbial spoilage or insect infestation.

Smokehouses:

The smokehouse can be simple or elaborate in design, depending on the quantity of meat to be smoked. It should be of reasonably tight construction to permit easy regulation of temperature and flow of air and smoke. Special attention during construction should be given to the control of insect and rodent infestations.

Temporary smokehouses for small quantities of meat can be constructed cheaply and easily. Construction should include a ventilated enclosure for hanging and smoking the meat as well as facilities for generating smoke and supplying it to the house. A barrel or drum with both ends removed, connected by a stove pipe or a covered trench to a fire pit, can be used (fig. 90). Set the barrel over the upper end of the 10 to 12 feet of stove pipe, which is sloped downward to the fire pit. Control the heat of the fire by covering the pit with a piece of sheet metal and mounding earth around the edges, so as to cut off most of the draft. Clean muslin or burlap hung over the top of the barrel will protect a 1-inch opening between the barrel and the cleated top, which rests on broomsticks supporting the meat (fig. 90). This type of smokehouse is large enough for the cuts from one hog. An old refrigerator or a simple frame house can be used rather than a barrel. The fire can also be built in a ventilated barrel which is connected to the smokehouse by a stove pipe.

Permanent structures suitable for smoking meat should be constructed if large quantities of meat are to be smoked. Tight construction and well-fitted ventilators provide effective regulation of the air flow past the meat. An outside firebox makes temperature control easy and reduces fire hazard. Consult the local extension agent for detailed plans for the construction of permanent smokehouses.

Smoking Process:

All meat to be smoked should be soaked to remove surface concentration of salt. Cuts should be allowed to dry since a wet surface will not take a uniform smoked color.

Hang the cuts in the smokehouse in such a way that cuts do not touch each other or the wall. Suspend hams and shoulders with string or clean galvanized wire through the shank. Prior to hanging bellies, reinforce the ends with hardwood skewers or clean galvanized wire to hold them square. Bacon hangers can also be made from strips of nonresinous wood through which several small galvanized nails have been driven.

In the firepit, build a fire of any hardwood, such as hickory, oak, apple, pecan, and maple. Hickory is the most popular. NEVER use soft woods (pine, cedar, spruce, or other "needle leaf" trees) because their smoke is sooty and contains resin which gives the meat a dark color,

bitter taste, and strong odor. Once the fire is burning, hard wood sawdust can be added to deaden the blaze and generate more smoke. Dampen the sawdust with water to prevent it from flaming. A thin haze of smoke is as effective as a dense cloud.

The absorption of smoke and the change in color of the outside surface of smoked meat is hastened by high temperatures. The type of smokehouse and the outside temperatures are important factors in the length of time required to smoke meat. Federal meat inspection regulations state that whenever the fresh appearance of a product containing pork muscle tissue has been altered to resemble a product that may mistakenly be eaten without cooking or with less than thorough cooking, it must have been treated in an acceptable manner to destroy possible live trichinae by heating to an internal temperature of 137° or otherwise treating (see page 62).

A suggested schedule for smoking pumped or pickled cured hams is as follows:

- 4 hours - 120° F damper open - smoke off
- 6 hours - 140° F damper one-quarter open - smoke on
- Raise temperature to 170° F and hold until internal temperature reaches 142° to 146° F.

To be fully cooked, it is recommended that the cuts remain in the smokehouse until their internal temperature reaches 152° to 155° F.

For smoking bacon, the following schedule may be used:

- 2 hours - 115° F damper open - smoke off
- 2 hours - 130° F damper closed - smoke on
- Raise temperature to 140° F and hold until internal temperature reaches 127-130° F

Storage of Smoked Meats:

Cured, smoked pork can be handled several ways depending on the final product desired. It can be eaten immediately, refrigerated or frozen for future use, canned, or aged for the development of the characteristic "country-cured" flavor. If the product

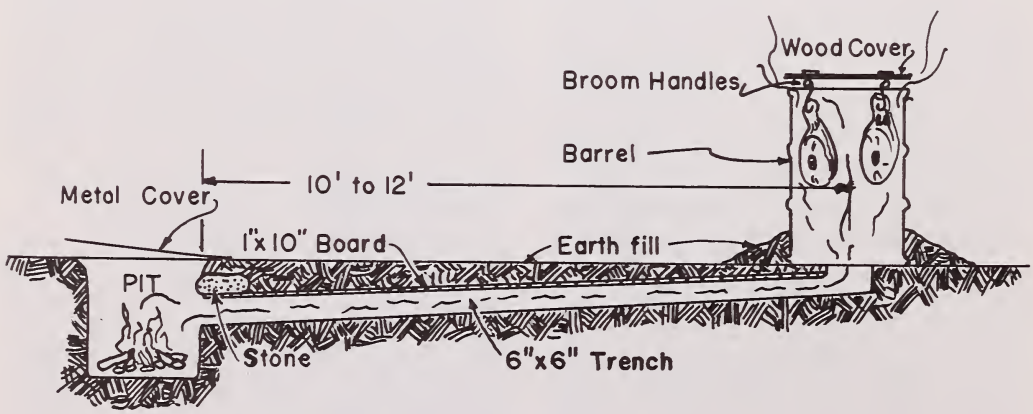


Figure 90.—Barrel for smoking.

is to be frozen or canned, follow the recommendations given in the Wrapping or Canning sections.

Canning

If done properly, pork can be satisfactorily preserved by canning. Meat is a low acid, high protein food that allows for good bacterial growth. The use of a pressure canner is vital to ensure that the sterilization temperature (240° F) is reached and maintained for the proper length of time. A water bath or a steamer is *not recommended* since neither one attains a sufficiently high temperature to produce effective sterilization. Meat may be canned soon after chilling since aging has little effect on the flavor and tenderness of canned meats.

The proper canning procedure is as follows: Use only pint and quart jars. Larger jars are difficult to heat thoroughly to the center. Cut the meat into small strips or cubes. Place meat into a large shallow pan; add enough water to prevent sticking. Cover the pan and cook slowly until medium done. Stir occasionally so that the meat heats evenly. Two and one-half pounds of boneless meat will fill a quart jar.

Pack hot meat loosely in glass jars and cover with hot meat broth or boiling water. Leave 1 inch of head space. For flavor, salt can be added to each jar (approximately one-half teaspoon per pint or 1 teaspoon per quart). Clean any residue from the top of the jar and adjust lids to manufacturer's specifications and process in a pressure canner at 10 pounds pressure (240° F). Process pint jars for 75 minutes; quarts for 90 minutes.

Allow the canner to cool until the pressure drops to zero. Don't pour cold water over the canner to hasten the cooling. Remove the jars and space them a few inches apart to cool.

If a jar does not seal, re-can the meat in another jar or use it for food at once. When re-canning, heat the meat through. Then pack and process in pressure canner for the full time recommended. Store sealed jars of canned meat in a cool, dry place and don't allow it to freeze.

Lard Rendering

To produce a high quality lard with good stability, remove all the skin and lean from the back-fat and other fat trimmings. Fats from around the internal organs should be rendered separately because they yield a darker lard than leaf-fat and other body fat trimmings.

Cut the fat into small pieces of similar size for quick uniform rendering. Steam rendering, if available, is most preferable since it eliminates the danger of scorching. When fat is rendered in a kettle over an open fire, it should be stirred frequently and the fire should be kept low to prevent sticking and scorching. Do not use a copper or brass kettle because these metals cause rapid rancidity.

The temperature of the fat during rendering should remain about 212° F. As the process continues, water will evaporate and the temperature will increase. Do not allow it to go above 255° F.

As the rendering process proceeds, the cracklings float to the surface and become brown in color. When boiling (evaporation of water) ceases, the rendering process is completed and heating can be discontinued. Strain the lard through several thicknesses of cheese cloth into lard pails or

crocks, and cool immediately at a temperature near freezing. While cooling, stir to a creamy stage to prevent graininess. If the lard is dark in color, it is because it was scorched or there was too much lean left on the fat. Additional lard can be obtained by pressing the hot cracklings in a lard press.

Air and light can cause lard to become rancid; therefore, containers should be filled to the top, sealed tightly and stored in a dark, cool place.

Fresh Sausage

Fresh pork sausage is generally made by grinding and seasoning lean pork trimmings from bellies, hams, and shoulders. Fresh sausage should contain about 20 to 30 percent fat. If more fat is included, the sausage may be too greasy and shrink a lot in cooking. If entire shoulders or hams are used, it may be necessary to add some fat.

Prepare sausage by grinding the meat through a coarse plate (1/2-inch holes), mix thoroughly, spread thin, add seasoning, and mix thoroughly. Regrind through a finer plate (1/8-inch holes), for a more uniform mix with the seasoning.

For seasoning 100 pounds of trimings, a suggested seasoning formula would be the following:

- 2 pounds of salt
- 6 ounces of pepper
- 1 to 2 ounces of sage

Other seasoning such as mace, nutmeg, cloves, or red pepper can be added in small amounts (not to exceed 5 ounces) if desired.

Seasoned sausage should not be frozen for longer than 2 or 3 months since salt hastens the rancidity of pork. Unseasoned ground pork may be frozen for up to 5 to 6 months, then thawed, seasoned, and used.

Sausage may also be stuffed into casings for use either with or without smoking. Artificial casings can be obtained from local butchers or natural casings (small intestines) can be used. Natural casings should be washed thoroughly, cleaned, and scraped prior to use. Stuffing sausage requires skill and proper equipment. It is best to have sausage stuffed and smoked by a local custom processor.

Scrapple

Scrapple, a favored breakfast dish in many sections, is made of cooked pork and broth thickened with cornmeal, flour, and sometimes shorts. The following formula is popular:

- 30 pounds of cooked and ground meat
- 30 quarts of broth
- 10 pounds of cornmeal
- 3 pounds of buckwheat or rye flour
- 1 1/2 pounds of rolled oats
- 15 ounces of salt
- 3 ounces of pepper

Cuts of pork such as the head, tail, kidneys, heart, tongue (skinned), spareribs, and pork trimmings may be used to make scrapple. Clean and trim all pieces thoroughly and place them in a pot or vessel; cover with water and cook until the meat separates easily from the bone. Separate the meat from the bones and grind or chop fine. After grinding return the meat to the broth and bring to a boil, add corn meal, buckwheat flour, and rolled oats and cook until the mixture has the consistency of thick mush. Season with salt, pepper, and spices; remove from the heat and

pour into molds or shallow pans to harden.

When adding the cereal, moisten it with some of the cooled broth so that it may be added without forming lumps.

If made properly, scrapple can be sliced and fried easily with little crumbling.

Headcheese

Headcheese is easy to make. Split the head, remove the eyes, clean the ears and nostrils, cover the cleaned pieces in water with the tongue, heart, and some lean trimmings and cook until the meat is well done and separates easily from the bones. Grind the meat and cover with broth. Add seasoning (salt, pepper, and others if desired), cook for 15 to 20 minutes and pour into pans. Headcheese can be eaten cold or fried the same as scrapple or panhas. Headcheese does not hold together as well as scrapple because of the absence of corn meal and flour.

The following quantities of seasoning per 100 pounds of cooked meat, including the added broth, are recommended:

2-2 1/2 pounds of salt
3-5 ounces of black pepper
1 ounce of red pepper
1 ounce of ground cloves (if desired)
1 ounce of coriander (if desired)
2 ounces of sweet marjoram (if desired)

Panhas (pon-hos)

Using the broth remaining after making headcheese, strain out all the bones and thicken with corn meal, buckwheat or rye flour. Use three or four parts broth to one part meal to make a thick paste. To prevent lumping, it is best to slightly moisten the meal with a little cooled broth before adding it to the other broth. Season to taste with the seasonings given for headcheese. Cook for 30 to 45 minutes and pour into shallow pans to cool. Slice and serve like scrapple.

Pickled Pigs' Feet

Pigs' feet should be clean, free from hair, and the toes removed. Make certain to clean between the toes and trim any remaining hair.

Cure clean, chilled feet in brine for 15 days to 3 weeks. Use the same brine suggested for curing hams. Weight the feet to keep them from floating above the solution. Use enough solution to completely submerge the feet. Keep the feet cold throughout curing period (at 36° to 40° F, if possible).

After curing, slowly cook or simmer the feet until they are tender. Cook them slowly to keep the skin from parting excessively and the feet from pulling out of shape. Thoroughly chill the cured, cooked feet and pack them in cold, moderately strong vinegar, add spices such as bay leaves or allspice. Use the feet at once or store them in the vinegar.

MEAT COOKERY

Tender cuts of meat are best cooked with dry heat such as broiling, roasting, and panbroiling. Less tender cuts of meat are tenderized by cooking with *moist* heat. Connective tissue is softened and tenderized by cooking slowly in moisture.

Temperature control is very important in meat cookery. Meat loses moisture, fat, and other substances during cooking. However, some of the meat juices and fat may be retained in the pan drippings.

Cooking losses can be minimized by controlling the oven cooking temperature and final internal temperature of the meat. Shrinkage is increased when hot oven temperatures are used for cooking and when meat is cooked to a higher internal temperature.

The meat thermometer is the most accurate guide to the degree of doneness of meat. Cooking time in relation to weight is often used as a guide to the degree of doneness, but this may be influenced by the cut's fat and moisture content and by its shape or size.

Fresh pork, smoked picnic shoulder, shoulder roll, and other smoked products should be cooked to an internal temperature of 160° F (71° C). Excessive cooking will toughen and dry the meat, thus decreasing its acceptability.

Hams cooked to 140° F (60° C) are not fully cooked and should be cooked before eating. Hams which are cooked to 150° F or higher should require no further cooking and are labeled "fully cooked."

Trichinae are rarely found in pork; however, precautions should always be taken. Trichinae are readily destroyed by any of the following conditions:

- Heating meat throughout to an internal temperature of 137° F (58° C)
- Storage at -20° F (-29° C) or below for 6 to 12 days
- Storage at -10° F (-23° C) or below for 10 to 20 days
- Storage at 5° F (-15° C) or below for 20 to 30 days

More detailed instructions for cooking procedures can be obtained from the following source:

Lessons on Meat, National Live Stock and Meat Board, 444 North Michigan Avenue, Chicago, Illinois 60611

PRECAUTIONS

The Law

The Federal Meat Inspection Act requires that all meat which is to be sold or traded for human consumption must be slaughtered under inspection in an approved facility under the supervision of a State or USDA meat inspector. People can slaughter their animals outside such facilities only for use by themselves, members of their households, their nonpaying guests, or their employees, but they are not allowed to sell any portion of the carcass. For more details about these regulations, consult your county extension agent or write to the Food Safety and Inspection Service, United States Department of Agriculture, Washington, D.C. 20250.

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